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Appl. Ser. No. 09/395,909

EXHIBIT A
MARKED-UP CLAIM AMENDMENT(S) FOR
RESPONSE TO OFFICE ACTION DATED OCTOBER 23, 2002

1. (THREE TIMES AMENDED) A multi-codebook fixed bitrate CELP signal block encoding/decoding method, including the steps of:
selecting, for each signal block, a corresponding excitation codebook identification from a pre-determined signal block independent sequence of codebook identifications[utilizing a deterministic selection procedure that is independent of signal type]; and
encoding/decoding each signal block by using an excitation codebook having said selected excitation codebook identification.
2. The method of claim 1, including the steps of
providing several sets of excitation codebooks;
determining, for each signal block, a corresponding set of excitation codebooks based on previously determined values of other signal block characterizing parameters;
selecting, for each signal block, a corresponding excitation codebook identification in the determined set utilizing a deterministic selection procedure that is independent of signal type; and
encoding/decoding each signal block by using an excitation codebook from said determined set having said selected excitation codebook identification.
3. The method of claim 1, including the steps of
selecting, for each signal block, a corresponding excitation codebook identification utilizing a deterministic selection procedure that is independent of signal type;
providing several sets of excitation codebooks;
determining, for each signal block, a corresponding set of excitation codebooks based on previously determined values of other signal block characterizing parameters; and
encoding/decoding each signal block by using an excitation codebook from said determined set having said selected excitation codebook identification.
4. The method of claim 2 or 3, wherein said other parameters are channel protected.
5. The method of claim 4, wherein only parts of said channel protected parameters that allow error detection are used.

6. (TWICE AMENDED) The method of claim 1, 2, or 3, wherein said pre-determined signal block independent sequence of codebook identifications[deterministic selection procedure] is defined by cyclically stepping through each excitation codebook identification[in said sets of excitation codebooks].

7. (TWICE AMENDED) The method of claim 1, 2, or 3, wherein said deterministic selection procedure is defined by randomly stepping through each excitation codebook identification in said sets of excitation codebooks.

8. The method of claim 1, wherein said excitation codebooks are fixed excitation codebooks.

9. The method of claim 8, wherein said excitation codebooks are algebraic excitation codebooks.

10. The method of claim 1, wherein said signal block is an audio frame.

11. The method of claim 1, wherein said signal block is an audio subframe.

12. (THREE TIMES AMENDED) A multi-codebook fixed bitrate CELP signal block encoder/decoder, including:

- an excitation codebook selector for selecting, for each signal block, a corresponding excitation codebook identification from a pre-determined signal block independent sequence of code book identifications[utilizing a deterministic selection procedure that is independent of signal type]; and

- means for encoding/decoding each signal block by using an excitation codebook having said selected excitation codebook identification.

13. The encoder/decoder of claim 12, including
several sets of excitation codebooks;

- a set selector for determining, for each signal block, a corresponding set of excitation codebooks, based on previously determined values of other signal block characterizing parameters;

- an excitation codebook selector for selecting, for each signal block, a corresponding excitation codebook identification in the determined set utilizing a deterministic selection procedure that is independent of signal type; and

- means for encoding/decoding each signal block by using an excitation codebook from said determined set having said selected excitation codebook identification.

14. The encoder/decoder of claim 12, including

- an excitation codebook selector for selecting, for each signal block, a corresponding excitation codebook identification utilizing a deterministic selection procedure that is independent of signal type;
- several sets of excitation codebooks;

a set selector for determining, for each signal block, a corresponding set of excitation codebooks based on previously determined values of other signal block characterizing parameters; and

means for encoding/decoding each signal block by using an excitation codebook from said determined set having said selected codebook identification.

15. (TWICE AMENDED) The encoder/decoder of claim 12, 13, or 14, wherein said excitation codebook selector cyclically steps through each excitation codebook identification[in said sets of excitation codebooks].

16. (TWICE AMENDED) The encoder/decoder of claim 12, 13, or 14, wherein said excitation codebook selector [randomly] pseudo-randomly steps through each excitation codebook identification [in said sets of excitation codebooks].

17. The encoder/decoder of claim 12, wherein said excitation codebooks are fixed codebooks.

18. The encoder/decoder of claim 17, wherein said excitation codebooks are algebraic excitation codebooks.

19. (THREE TIMES AMENDED) An excitation codebook selection method for multi-codebook fixed bitrate CELP signal block encoding/decoding, including the step of:

selecting, for each signal block, a corresponding excitation codebook identification from a pre-determined signal block independent sequence of codebook identifications[utilizing a deterministic selection procedure that is independent of signal type], said codebook identification identifying a particular excitation codebook.

20. (TWICE AMENDED) The method of claim 19, wherein said pre-determined signal block independent sequence of codebook identifications[deterministic selection procedure] is defined by cyclically stepping through each excitation codebook identification[in a set of excitation codebooks].

21. (TWICE AMENDED) The method of claim 19, wherein said pre-determined signal block independent sequence of codebook identifications [deterministic selection procedure] is defined by [randomly] pseudo-randomly stepping through each excitation codebook identification[in a set of excitation codebooks].

22. (THREE TIMES AMENDED) A codebook selection apparatus for multi-codebook fixed bitrate CELP signal block encoding/decoding, including:

an excitation codebook selector for selecting, for each signal block, a corresponding excitation codebook identification from a pre-determined signal block independent sequence of codebook

identifications[utilizing a deterministic selection procedure that is independent of signal type], said excitation codebook identification identifying a particular excitation codebook.

23. (THREE TIMES AMENDED) The encoder/decoder of claim 22, [characterized by]wherein said codebook selector cyclically [stepping]steps through each excitation codebook identification[in a set of excitation codebooks].

24. (THREE TIMES AMENDED) The encoder/decoder of claim 22, wherein said excitation codebook selector [randomly]pseudo-randomly steps through each excitation codebook identification[in a set of excitation codebooks].

25. An algebraic multi-codebook structure, wherein
each excitation codebook being selectable and having separate tracks with different predetermined allowed pulse positions and excluded pulse positions; and
each selectable excitation codebook having different excluded pulse positions.